

REMARKS

Claims 19-33 were previously cancelled. Claim 4 is presently cancelled. Accordingly, Claims 1-3 and 5-18 are pending.

Present Invention

The snack food of the present invention is prepared from potatoes that have been modified genetically either by recombinant technology or by mutation. The cells in these potatoes produce starch that is at least 95% of amylopectin, i.e., starch that has high amylopectin content. The balance of the starch is, of course, amylose.

In order to prepare the snack food of the present invention, the high amylopectin content potatoes are used to make potato flakes and/or potato granules. These are small pieces of dehydrated, cooked potato which have either a flake or a granular form. Thus, the potato flakes and potato granules are pieces from a whole potato and differ in composition from a raw potato only in their water content. The potato cells are predominantly still intact in these flakes and granules; and the starch is essentially still contained in these cells.

Preferably, the potato flakes and/or potato granules are used to prepare dough. In addition to the potato flakes and/or potato granules, the dough typically contains some water, some isolated starch and other ingredients, such as salt and flavorings.

The dough is heated (i.e., cooked) by, for instance, baking or frying upon which it expands to form the desired snack food. Surprisingly, as a result of using potatoes in which the starch comprises 95% or more amylopectin, rather than natural potatoes in which the starch

comprises only about 80% amylopectin, the snack food of the present invention is much more expanded after heating than snack foods of the prior art. The greater expansion provides a very airy and brittle structure with a very pleasant texture.

Rejection under 35 U.S.C. §103 over *Lanner* in View of *Tallberg* and *Buwalda*

Claims 1-7, 9-15 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Lanner et al.* (U.S. Patent No. 6,022,574, hereinafter "*Lanner*") in view of *Tallberg et al.* (U.S. Patent No. 5,824,798, hereinafter "*Tallberg*") and *Buwalda* ("*Sheer Versatility*" *Potato Business World* May/June 1998). (See Office Action pages 2-4, paragraph 3.)

The primary reference, *Lanner*, discloses a process for making a shaped snack product. The Examiner concedes that *Lanner* does not disclose potatoes with an amylopectin content of at least 95%, does not disclose greater expansion, and does not disclose a genetically modified potato. (See Office Action page 3, 1st full sentence.)

In an attempt to rectify the deficiencies in the primary reference, the Examiner cites the secondary reference of *Tallberg* as disclosing high amylopectin potato and cites the secondary reference of *Buwalda* as disclosing that amylopectin potato starch provides improved expansion properties in snack foods.

It is critical to note that *Buwalda* only teaches isolated potato starch may increase expansion. *Buwalda* does not teach anything about high amylopectin potato pieces. Due to the fundamental differences in the physical characteristics of isolated potato starch *vis-à-vis* potato pieces, a skilled artisan would have thought that the effect isolated amylopectin starch has on expansion behavior teaches nothing about the effect pieces of amylopectin potato has on

expansion behavior.

In the Applicants' October 31, 2007 Amendment, a detailed discussion regarding the differences between isolated starch and potato pieces was provided. For the sake of convenience, the discussion is provided in a separate section below beginning on page 8.

It appears that the Examiner now acknowledges the differences between isolated starch and potato pieces. However, the Examiner states that "the present claims do not require any specific amount of 'amylopectin potatoes' in the snack food, therefore even a small substitution (such as a single potato in a batch of 1,000 conventional potatoes) would satisfy the present claims." (Last line of page 3 of the Office Action.)

Thus, it appears the Examiner is indicating that the scope of the pending claims includes snack foods that have only a trace amount of potato flakes and/or potato granules which are prepared from amylopectin potatoes. And thus, the Examiner seems to allege that *Buwalda's* disclosure of the inclusion of amylopectin starch to improve expansion would in essence be equivalent to a trace amount of amylopectin potato flakes and/or granules.

In order to address the Examiner's concern, Claim 1 has been amended to add the phrase "wherein at least 20% by weight of the snack food is the flakes and/or granules prepared from potato of which the starch has an amylopectin content of at least 95 wt%." Support for this phrase is on page 8, lines 13-15, of the specification.

Thus, the claims, as amended, can not be obvious in view of the cited prior art. Withdrawal of the rejection is respectfully requested.

Buwalda only teaches **isolated** potato starch

The author of *Buwalda*, i.e., Dr. Buwalda, corroborated that his article only addresses **isolated** starch in his declaration (filed on April 18, 2007). However, even without Dr. Buwalda's declaration, it is clear from the article itself that only isolated starch is addressed. In the article, starch is discussed as a chemical, which may be suspended or dissolved, and derivatized. A skilled artisan of starch chemistry would not refer to starch in such a manner if he were discussing starch which is still contained in potato pieces (e.g., flakes and granules). Also see page 11, the middle column, first paragraph where it is stated: "As potato starch is a mixture of amylopectin and amylose, solutions have a tendency to retrograde." This statement cannot relate to potato pieces which also contain 20 wt.% of non-starch components such as proteins, fibers, non-reducing sugars and amino acids. Also, see page 12, 1st column, 3rd paragraph, which discusses the "solubility" of starch in hot and cold water.

The fact that *Buwalda* only teaches isolated starch is critical. There are essential differences in the physical characteristics (e.g., rheological characteristics) between isolated potato starch and potato pieces, as would be known by a skilled artisan. For example, in potato pieces, starch is embedded in a matrix of other constituents; whereas, isolated starch is not embedded in a matrix. The other constituents include soluble proteins, cell walls and other soluble materials (e.g., salts, sugars, and amino acids). Being embedded in a matrix, the starch in the potato pieces is tied up and cannot behave in the same way isolated starch would behave.

A skilled artisan would have known about the fundamental differences between isolated starch and starch in potato pieces. Thus, knowing that isolated amylopectin starch provides improved expansion properties in snack foods would not have taught a skilled artisan anything about the effect amylopectin potato pieces may have on the expansion of snack foods. That is,

the effect that isolated amylopectin starch has on expansion is virtually irrelevant to the effect amylopectin pieces may have on expansion.

Other Rejections under 35 U.S.C. §103 with *Lanner* as Primary Reference

Claim 8 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lanner* in view of *Tallberg* and *Buwalda*, and further in view of Fazzolare *et al.* (U.S. Patent No. 4,834,996). (See page 4, paragraph 4, of the Office Action.)

Since the claims upon which Claim 8 depends are not obvious over *Lanner* in view of *Tallberg* and *Buwalda*, as discussed above, the further disclosure by Fazzolare *et al.* does not render Claim 8 obvious. Accordingly, Applicants request withdrawal of this obviousness rejection.

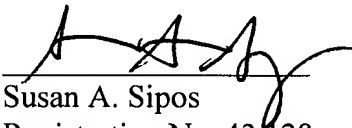
Claims 16 and 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lanner* in view of *Tallberg* and *Buwalda* and further in view of Villagran *et al.* (Office Action page , paragraph .)

Since the claims upon which Claims 16 and 17 depend are not obvious over *Lanner* in view of *Tallberg* and *Buwalda*, as discussed above, the further disclosure by Villagran *et al.* does not render Claims 16 and 17 obvious. Accordingly, Applicants request withdrawal of this obviousness rejection.

Applicants: Wainwright et al.
Serial No: 09/936,242
Filed: February 1, 2002
Page 10

Applicants respectfully submit that the application is now in condition for allowance, which action is earnestly solicited. If resolution of any remaining issue is required prior to allowance of this application, it is respectfully requested that the Examiner contact Applicants' undersigned attorney at the telephone number provided below.

Respectively submitted,



Susan A. Sipos
Registration No. 43,128
Attorney for Applicants

HOFFMANN & BARON, LLP
6900 Jericho Turnpike
Syosset, New York, 11791
(516) 822-3550
SAS
290919